

$n$  &  $p$  = 0-10  
 $Z$  = O, CH<sub>2</sub>, or NH

wherein Y represents a nanocrystal and X represents an organic compound capable of bonding to a detectable substance;

R is a bond or is selected from the group consisting of:

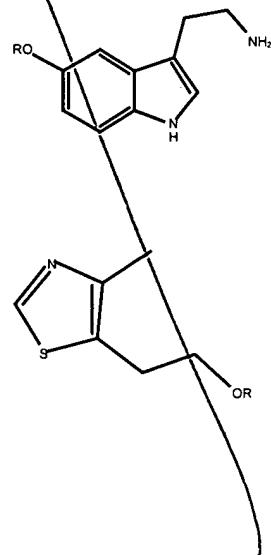
SH,  
 $O(CH_2)_nSH$ ,  
 $NH(CH_2)_nSH$ ,  
 $NH(CH_2)_nNHSH$ ,  
 $S(CH_2)_nSH$ , and  
 $S(CH_2)_nSH$ ;  $n$  is 1-10, with S being attached to the nanocrystal;

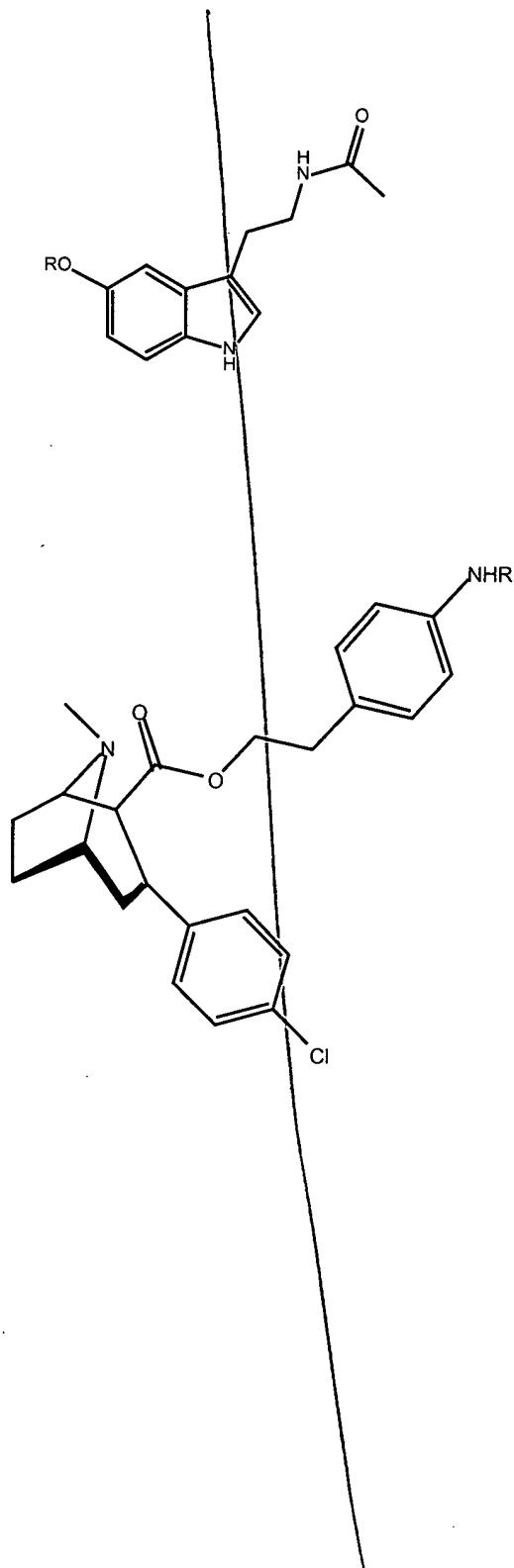
$R_2$  is a bond or selected from the group consisting of

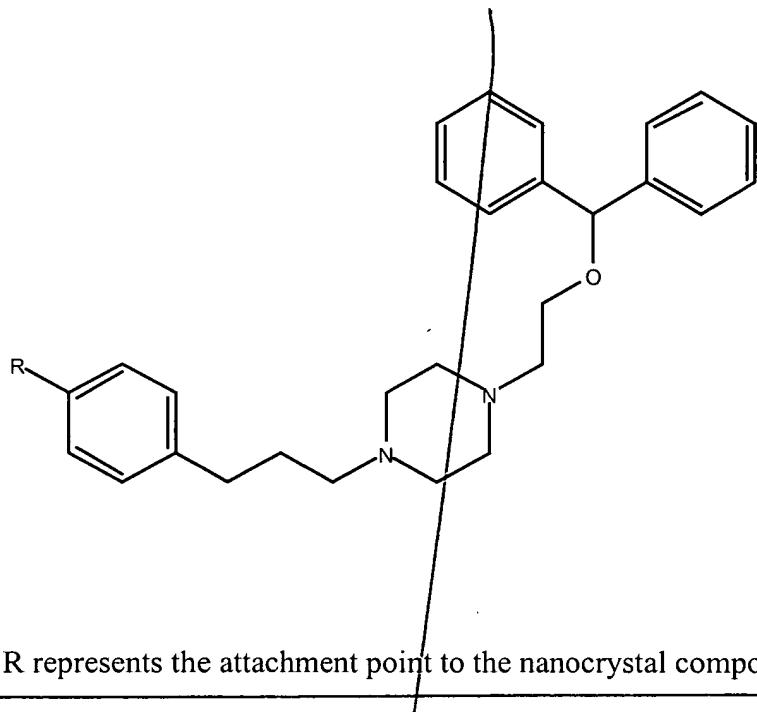
carbonyl,  
NH, SH,  
CONH,

COO,  
S,  
C<sub>1-10</sub> alkyl,  
carbamate, and thiocarbamate; and wherein  
when n and p are 1 or more, the resulting carbon or carbon chain may be substituted.

Claim 10 (Amended): The nanocrystal compound of claim 8, wherein the organic compound is selected from the group consisting of:







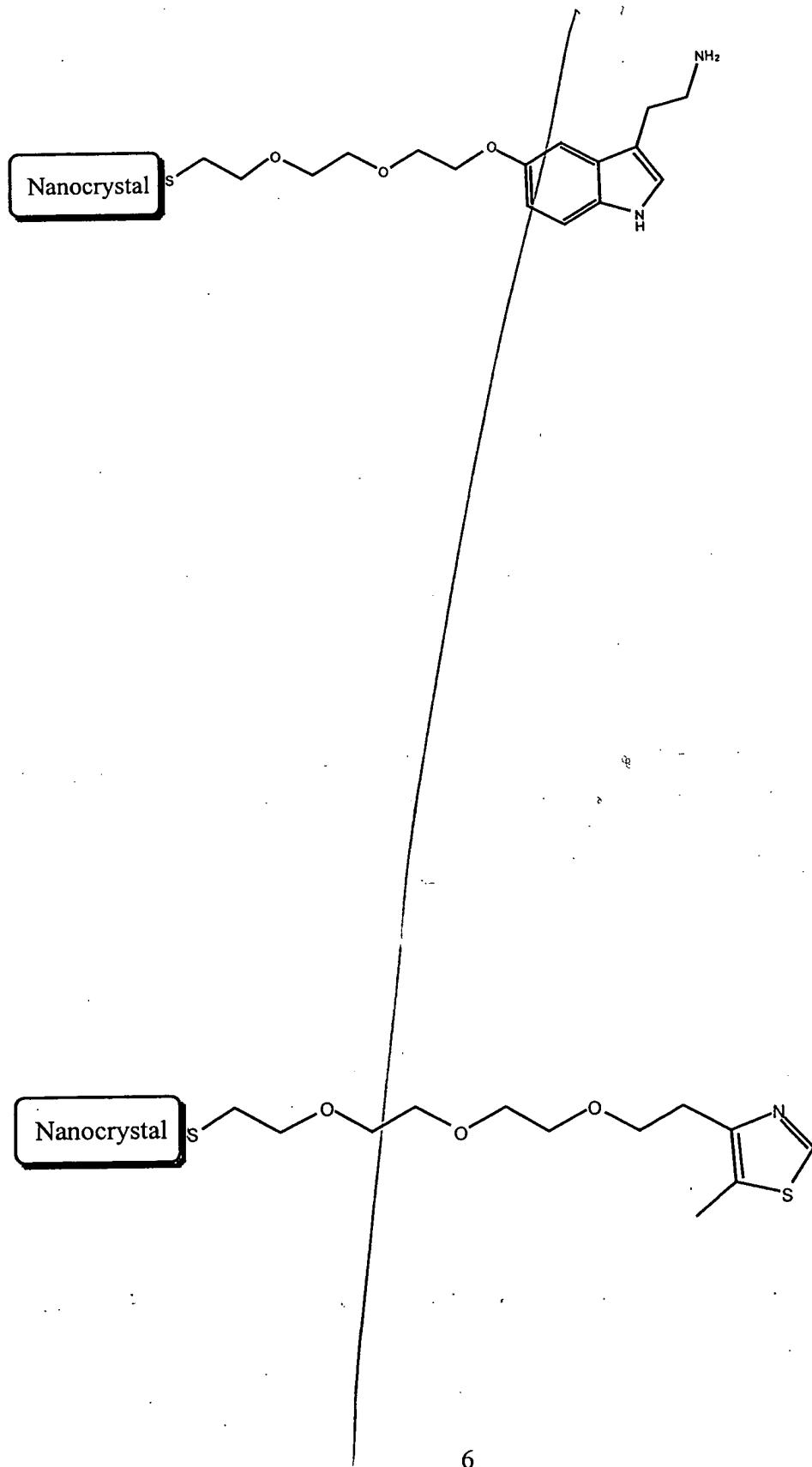
wherein R represents the attachment point to the nanocrystal compound.

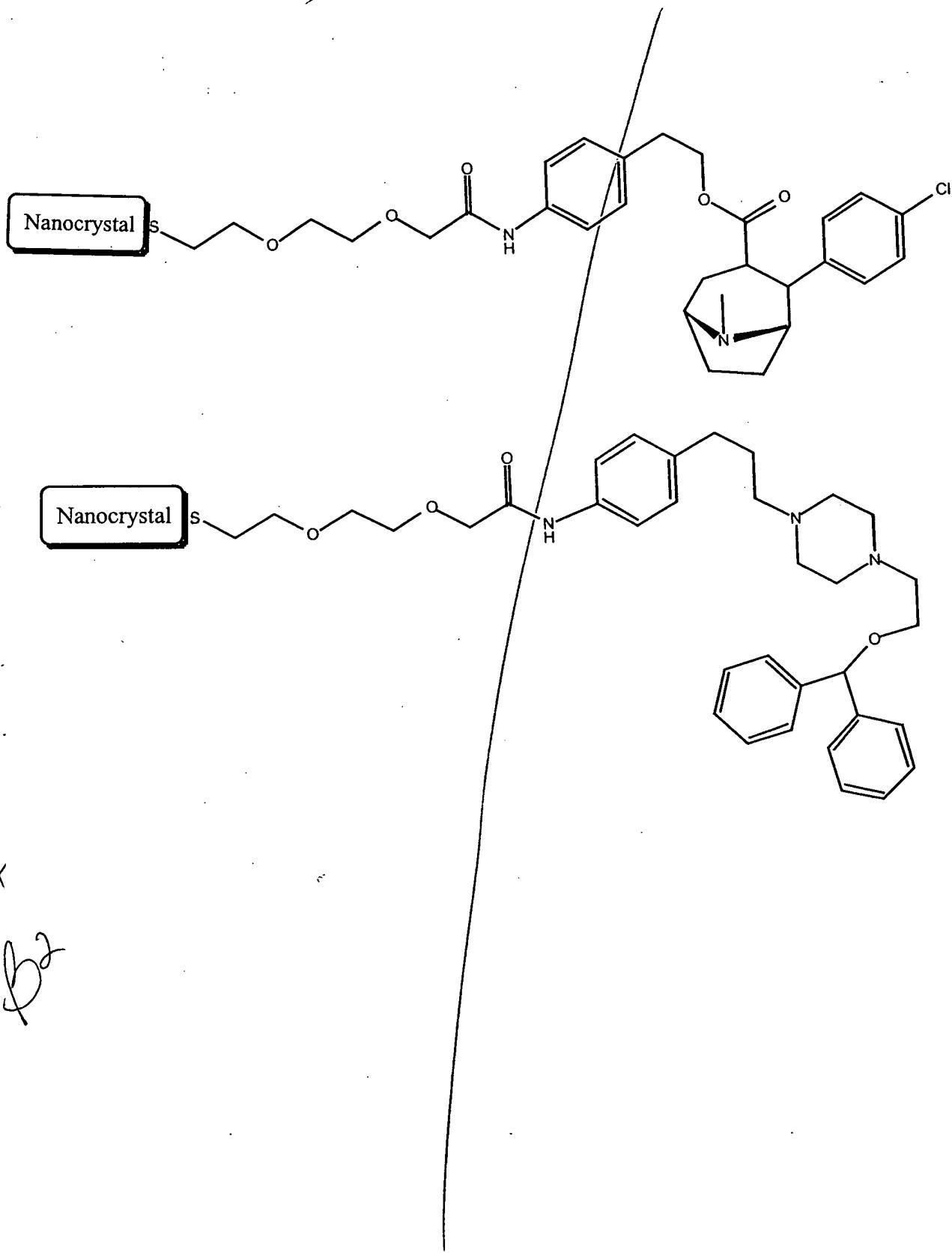
*AS*

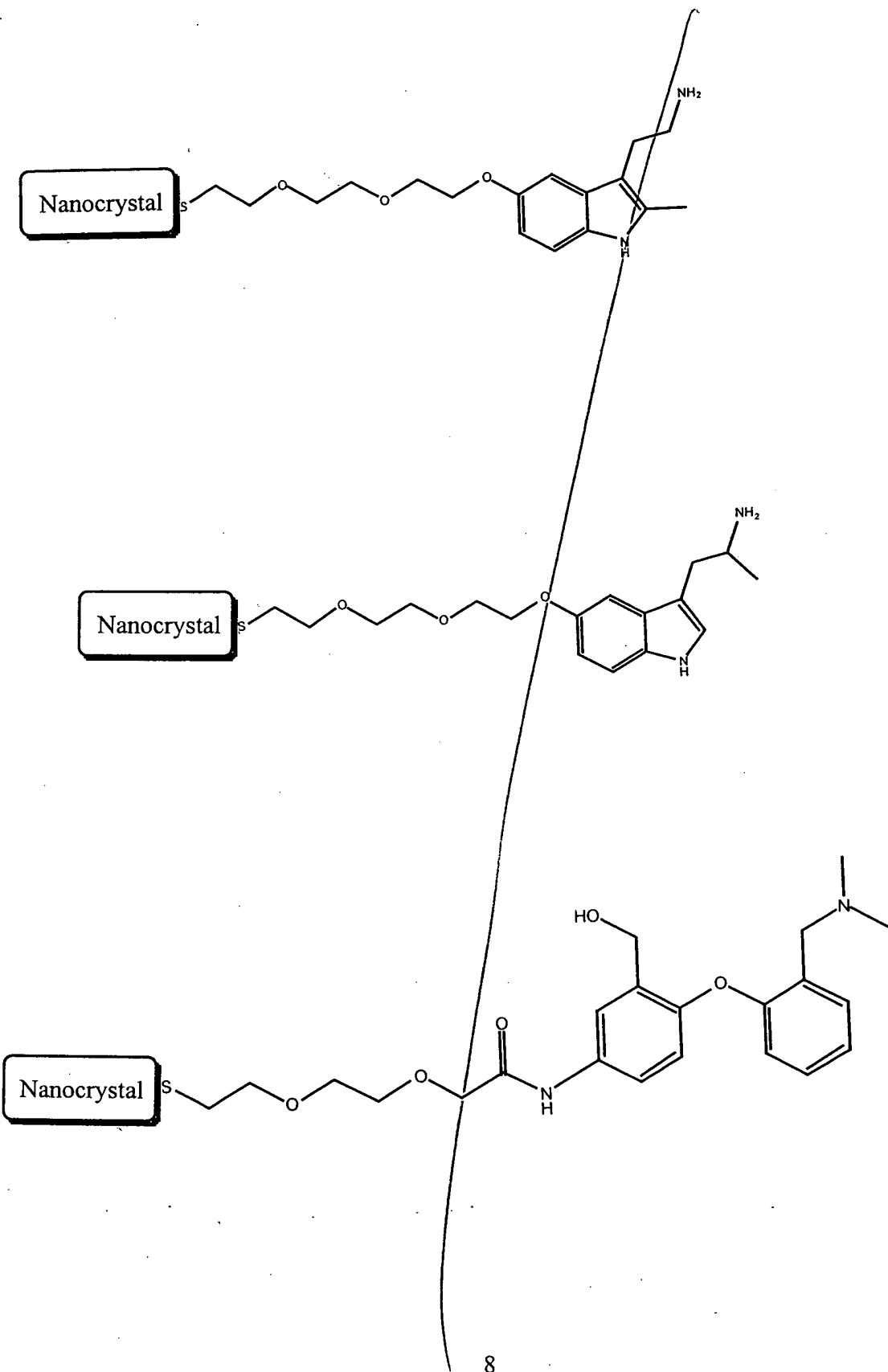
Claim 13 (Amended): The compound of claim 8, wherein the nanocrystal is selected from the group consisting of CdSe, CdS, PbSe, PbS, and CdTe nanocrystals.

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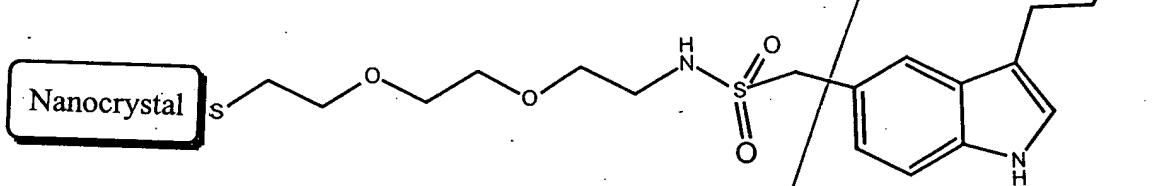
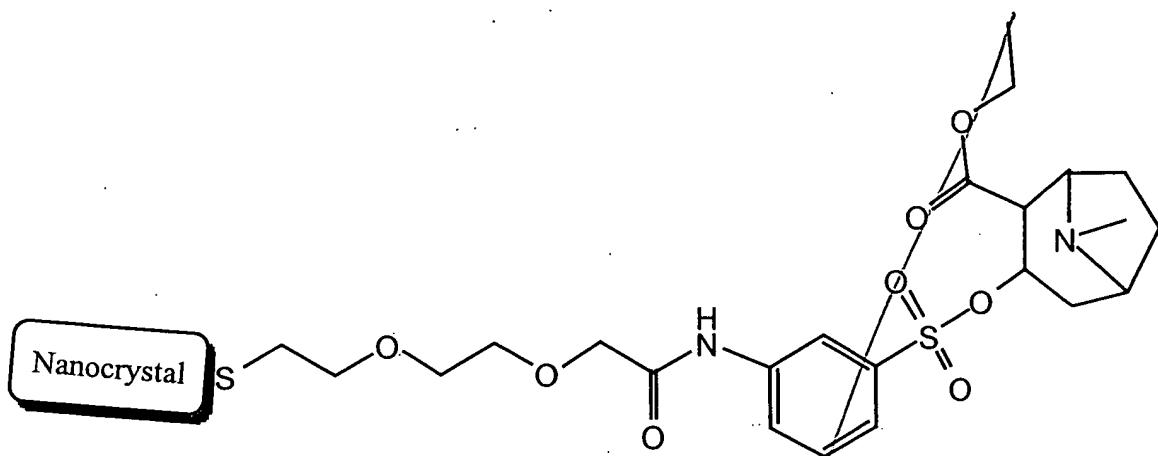
Claim 16 (Amended): The compound of claim 8, selected from the group consisting of:



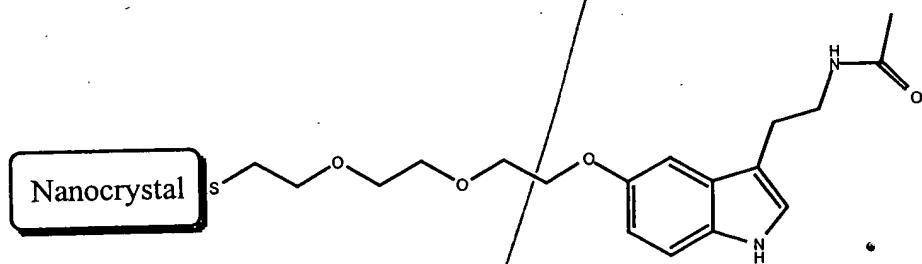




A &  
B 2  
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and



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A4  
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